Action Plan and Timeline of Activities
for the City of Crossett
Ashley County, Arkansas
April 7, 2014

Background: Crossett, Arkansas, has a population of about 5,500 residents and is located in southeastern Arkansas just nine miles north of the state's border with Louisiana. Residents from one of Crossett's predominantly African-American neighborhoods have been concerned for many years about air emissions and water discharges from the Georgia-Pacific LLC paper facility (GP). The facility complex includes a paper mill, plywood mill (currently inactive), and two chemical plants.

Deputy Regional Administrator Sam Coleman and staff from OEJTA traveled to Crossett on February 22, 2014. The purpose of the visit was to participate in a tour of the community and a community meeting at the request of Pastor David Bouie, Sr. Pastor Bouie represents the local group Concerned Citizens for Environmental Justice (CCEJ), which was recently formed to better address the community's concerns with GP. This plan summarizes the information and actions taken by EPA Region 6 in response to the concerns expressed by residents during the February 2014 tour and community meeting.

1. Community Air Concerns: ***Hydrogen Sulfide*****.** Residents are concerned about exposure to hydrogen sulfide. The primary source of hydrogen sulfide releases at the GP facility is the wastewater treatment process. Hydrogen sulfide produced in the digester is collected and sent to an incinerator. EPA Region 6 conducted inspections at the GP facilities on March 19-21, 2014, under Section 313 of the Emergency Planning and Community Right to Know Act (EPCRA 313). EPCRA 313 established the Toxics Release Inventory (TRI), which is a publicly available database that contains information on toxic chemical releases and waste management activities reported annually by certain industries and federal facilities. GP's hydrogen sulfide reporting for the TRI was calculated using modeling studies, not monitoring results. The purpose of the inspections was to determine if GP's facilities have correctly reported to the TRI.

Extensive review of the data collected during the inspection is needed for EPA to determine if a facility is in compliance with TRI requirements. We are currently in the process of reviewing the inspection data and will provide the results once our assessment is complete.

Region 6 provided Pastor Bouie with web links to the following background information on the Toxics Release Inventory and reporting requirements for hydrogen sulfide on March 24, 2014.

- (News Release) EPA Reinstates Toxics Release Inventory Reporting Requirements for Hydrogen Sulfide,
- (Federal Register Notice) Lifting of Administrative Stay for Hydrogen Sulfide,
- The Statute (Law) – Section 313 of the Emergency Planning and Community Right-to-Know Act (EPCRA), and
- The Regulations – 40 CFR § 372 – Toxic Chemical Release Reporting: Community Right-To-Know.

Air Quality Planning – The Clean Air Act requires EPA to set National Ambient Air Quality Standards (NAAQS) for pollutants considered harmful to public health and the environment. EPA has set NAAQS for six principal pollutants: carbon monoxide, lead, nitrogen dioxide, ozone, particle pollution, and sulfur dioxide. Crossett, AR, is in compliance with all NAAQS.

The Arkansas Department of Environmental Quality's (ADEQ) Clean Air Act 111(d) Plan requirements for kraft pulp mills were approved in 1998. The plan requires the GP facility to conduct compliance testing and continuous monitoring requirements for Total Reduced Sulfur (TRS) emissions. TRS is the sum of the sulfur compounds hydrogen sulfide, methyl mercaptan, dimethyl sulfide, and dimethyl disulfide.

In 1999, EPA issued regulations to improve visibility, particularly in national parks and recreation areas. Those regulations required states to develop plans, known as State Implementation Plans, to address emissions that contribute to regional haze. Among the required elements of these plans, states must include determinations of Best Available Retrofit Technology (BART) for certain types of sources that emit pollutants that impair visibility, and long term strategies to ensure that reasonable progress is being made. The Arkansas Regional Haze State Implementation Plan (RH SIP) was submitted to EPA in September 2008. EPA Region 6 worked with ADEQ and GP to ensure the 6A and 9A boilers at the facility were in compliance with BART requirements.

Air Permitting – Currently, the GP facility has an ADEQ Title V operating permit (Permit No. : 0597-AOP-R14) that is effective from August 4, 2011 – August 3, 2016. This facility is not currently required to have a greenhouse gas permit. More detail on the facility's Title V permit is provided below.

Permit Limits and Requirements:

<u>Applicable Requirements:</u>

- MACT I – Controlling hazardous air pollutant (HAP) emissions from production areas using kraft, sulfite, semi-chemical, and soda pulping processes
- MACT II (Subpart MM) – Controlling HAP emissions from pulping recovery combustion areas
- MACT III – Controlling HAP emissions from production areas using mechanical, secondary fiber, and non-wood pulping, and papermaking systems
- Kraft Pulp Mill New Source Performance Standards (NSPS) – Controlling Particle Matter and Total Reduced Sulfur (TRS)
- Boiler MACT: Subpart 5D establishes requirements to demonstrate initial and continuous compliance with national emission limits and work practice standards for HAPs emitted from industrial, commercial, and institutional boilers.

<u>Actual Requirements in the Current Operating Permit for GP:</u>

- National Emission Standards for Hazardous Air Pollutants (NESHAP) Subpart S or Cluster Rule (Pulp and Paper Industry or MACT I & III) since 1999 on their second Title V permit: TRS

- NESHAP Subpart MM for Chemical Recovery Combustion Sources at Kraft, Sulfite, and Stand-Alone Semi-chemical Pulp Mills (MACT II): PM (surrogate for HAP metals), VOC, CO, SO2, NOx for smelt tanks, evaporator recovery furnaces that are used for combustion spent pulping liquor; THC (surrogate for gaseous organic HAPs)
- Compliance Assurance Monitoring has been required for the two largest boilers and their two incinerators/scrubbers since 2003

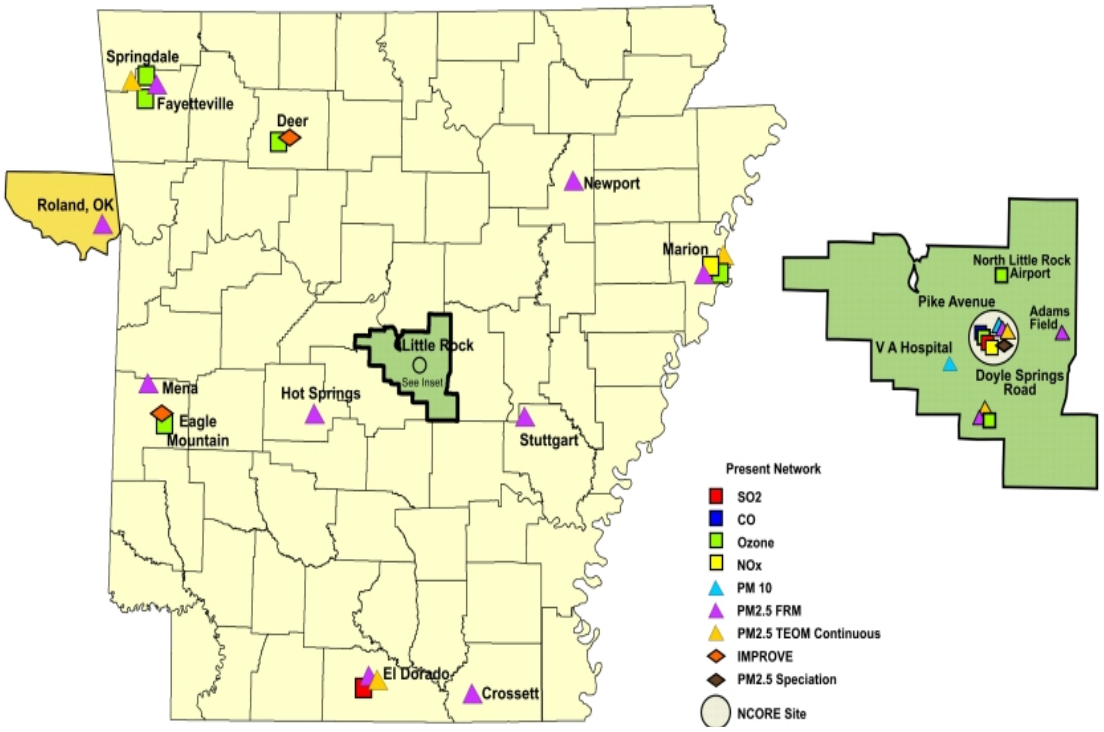
Permit Emission Limits by Pollutant and Tons Per Year (TPY)

Pollutant	TPY
Particulate Matter	1,403.5
Particulate Matter $_{10}$	1,372.6
Sulfur Dioxode (SO_2)	1,037.4
Volatile Organic Compounds	3,209.3
Carbon Monoxide	11,484.5
Nitrogen Oxides (NO_X)	5,522.4
Lead	0.53
Total Reduced Sulfur (TRS)*	130.7

* TRS is the sum of the sulfur compounds hydrogen sulfide, methyl mercaptan, dimethyl sulfide, and dimethyl disulfide

Air Monitoring – ADEQ operates a Particulate Matter 2.5 ambient air monitor in Crossett, Arkansas. The 2010-2013 preliminary annual design value is 10 ug/m3 (the NAAQS is 12.0 ug/m3). The nearest sulfur dioxide monitor to Crossett is in El Dorado, Arkansas, which is approximately 45 miles away. An ADEQ ambient air monitoring network map is shown below.

Image 1: ADEQ ambient air monitoring network.

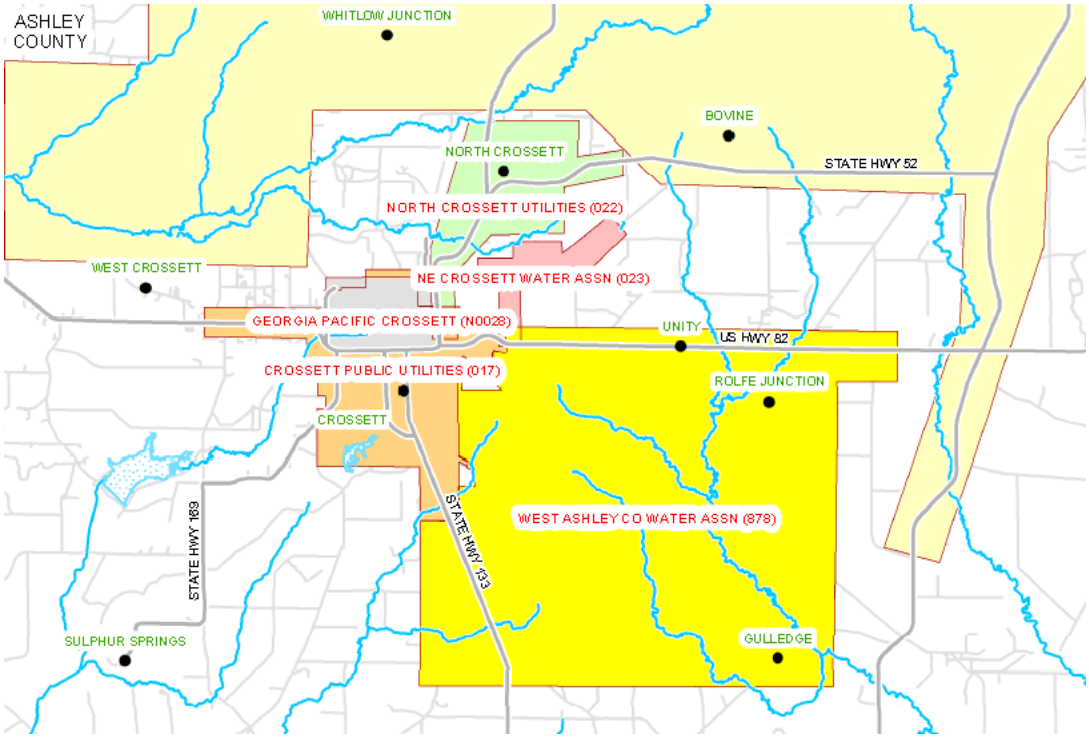


2. Community Water Concerns: ***Drinking Water –*** In regards to community concerns about drinking water contamination, EPA Region 6 conducted a thorough review of the most recent sanitary surveys and the Consumer Confidence Reports for the past 10 years of the four drinking water systems that serve the Crossett area. We also examined a fifth sanitary survey for the GP paper mill, which is not a community water system.

The five water systems that were reviewed are listed below:

1. Crossett Water Commission – AR017
2. North Crossett Utilities – AR022
3. Northeast Crossett Water Association – AR023
4. West Ashley County Water Association – AR878
5. Georgia Pacific Water – Paper Mill – AR N028

Image 2: Drinking water systems near Crossett, Arkansas.



EPA determined that the public drinking water systems are in compliance with all State and Federal drinking water rules that are implemented by the Arkansas Department of Health. Based on this review, EPA has determined that there is currently no imminent risk to public health from the drinking water provided by these public drinking water systems to residents near Crossett, Arkansas.

EPA Region 6 sent a letter dated April 3, 2014, to Pastor Bouie responding to his drinking water concerns. Included with the letter was the Region 6 "Review of Public Drinking Water Systems Near Crossett, Arkansas," which summarized the information and results of our assessment.

Residents with additional questions concerning their community drinking water utilities may contact the following individuals:

- Mr. Anthony Adcock, Plant Superintendent of the Crossett Water Commission and West Ashley County Water Association, at 870-364-4195.
- Mr. Jeff Russell, Manager of the North Crossett Utilities and Northeast Crossett Water Association, at 870-364-2188.
- Ms. Rachel Johnson, Supervisor of Georgia Pacific Water – Paper Mill, at 870-567-8144.

Wastewater Treatment – GP's National Pollutant Discharge Elimination System (NPDES) permit requires the facility to sample and test its effluent and to monitor its compliance with permit conditions. The permit also requires GP to file with EPA and ADEQ certified Discharge Monitoring Reports (DMRs) of the results of monitoring, and Noncompliance Reports when appropriate. A review of DMRs over the last 5 years showed that the facility has been largely

compliant with its NPDES permit limits. However, the facility recently exceeded its permitted effluent limits for Dieldrin in November 2013, December 2013, January 2014, and February 2014. As a result, the facility is currently under enforcement review. EPA will continue to monitor the facility.

3. Disposal of Hazardous Materials: ***Boiler Ash Disposal –*** Community members have expressed concerns that hazardous materials are being disposed of on GP property and within the community. The GP facility is a large quantity generator (LGQ), which means it generates 1,000 kilograms per month or more of hazardous waste, or more than 1 kilogram per month of acutely hazardous waste. Requirements for LQGs include:

- LQGs may only accumulate waste on site for 90 days. Certain exceptions apply.
- LQGs do not have a limit on the amount of hazardous waste accumulated on site.
- There must always be at least one employee available to respond to an emergency. This employee is the emergency coordinator responsible for coordinating all emergency response measures. LQGs must have detailed, written contingency plans for handling emergencies.
- LQGs must submit a biennial hazardous waste report.

Mr. James Cutbirth, Superintendent of Environmental Services (870-567-8144), and Mr. Richard Freeman, Environmental Engineer, are the hazardous waste managers at GP.

According to GP, numerous analytics are conducted on the boiler ash that it generates prior to its use on site as a landfill cover. The boiler ash contains TRI metals (zinc, lead, barium, manganese) and trace amounts of dioxins. Further documentation of the analytics was gathered during the EPA inspection conducted March 19-21, 2014. The data shows all constituents are below toxicity characteristic leaching procedure (TCLP) values and can be treated as solid waste and placed in a permitted onsite landfill. The TCLP data was analyzed at American Interplex labs, which is an accredited lab, in Little Rock, AR.

Hazardous Waste Disposal – In 2013, GP used Philip Reclamation Services and Safety Kleen as its transporters for hazardous waste to off-site facilities. Hazardous waste was sent to the following two facilities in 2013:

- Chemical Reclamation Services (CRS), 405 Powell Street Avalon, TX, TXD046844700: CRS received 43 lbs of D002 waste (a caustic floor cleaner); 427 lbs of D001 and F003 (ignitable wastes and used solvents); 600 lbs of D001 (ignitable wastes); 20 lbs of D002, D007, D009 and D011 (corrosive waste, chromium, mercury, and silver); and 1,600 lbs of D001 (ignitable oil-based paint).
- Safety Kleen Systems, 3536 Fite Road Millington, TN, TND000614321: Safety Kleen received 4,409 lbs of D039 (Tetrachloroethylene or PCE).

The total amount of waste manifested and transported off-site in 2013 was 7,099 lbs.

4. Long-term exposure to hazardous chemicals: Residents believe there is a higher rate of cancer in the community due to long-term exposure to chemicals from the GP facility. Several also indicated suffering from some kind of respiratory condition. During a March 20, 2014, conference call with Pastor Bouie, there were questions about community exposure to hydrogen sulfide on a daily basis and the potential health impacts. Toxicology staff from Region 6 looked into this item and herein provides information regarding the potential harm from hydrogen sulfide exposure and the occurrence of hydrogen sulfide.

In a 2012 report prepared for Ouachita Riverkeeper Inc., the Louisiana Environmental Action Network (LEAN) reported air concentrations from 1 to 25 parts per billion (ppb) downwind from the GP facility using a Jerome Hydrogen Sulfide Monitor. The rotten egg smell of hydrogen sulfide would be perceptible at this range of air concentrations. The EPA chronic Reference Concentration (RfC) and the Agency for Toxic Substance and Disease Registry (ATSDR) acute-duration Minimum Risk Level (MRL) were used as comparison values. The range of hydrogen sulfide concentrations in the 1 to 25 ppb are below the acute-duration MRL (70 ppb) which indicates that harmful effects would not be anticipated from exposure up to 14 days; however, the range of hydrogen sulfide concentrations were above the chronic RfC (1.3 ppb) which indicates that long-term exposure (i.e., 70 years) could result in harmful effects. Without additional exposure information, the long-term health impacts from hydrogen sulfide cannot be evaluated.

Hydrogen sulfide gas occurs both naturally (e.g., swamps and stagnant water) and from human-made processes (e.g., pulp and paper mills). Hydrogen sulfide is a colorless gas with the characteristic odor of rotten eggs. People can smell hydrogen sulfide at low air levels (odor threshold of 0.5 ppb); however, at higher air levels, a person might lose the ability to smell it. Hydrogen sulfide has not been shown to cause cancer in humans. The harm caused by hydrogen sulfide is evaluated due to its noncarcinogenic health effects. Brief exposures to high air levels (greater than 500,000 ppb) of hydrogen sulfide can cause a loss of consciousness. Lower air levels (2,000 ppb to 20,000 ppb) of hydrogen sulfide may cause irritation to the eyes, nose or throat, and headaches. Hydrogen sulfide may cause people with asthma to have difficulty breathing.

The EPA has inhalation Acute Exposure Guideline Levels (AEGLs) for hydrogen sulfide ranging from 750 ppb to 330 ppb with exposure-durations ranging from 10 minutes to 8 hours. Individuals exposed to hydrogen sulfide levels above the AEGL-1 described above could experience notable discomfort and irritation. The ATSDR has an acute-duration (1 to 14 days) MRL of 70 ppb. The chronic noncarcinogenic health effects of hydrogen sulfide are evaluated by comparison to an inhalation RfC of 1.3 ppb. The RfC of 1.3 ppb hydrogen sulfide is equivalent to the reported concentration of 2 micrograms/cubic meter ($\mu g/m^3$). The RfC is an air level that allows for continuous daily exposure for a lifetime (i.e., 70 years) without harm to sensitive individuals including children.

5. Local and State Communication: Community members stated that local officials, ADEQ, and GP had not been responsive to their concerns. For example, residents asserted that local water officials did not provide information when services were interrupted. Also, local officials

and GP did not provide information when there was an incident or release related to the facility, according to the community.

EPA Region 6 reached out to ADEQ and the Arkansas Department of Health (ADH) to better coordinate and leverage resources in assisting the community with their concerns. We worked with ADEQ and ADH to research air, water, and compliance information related to Crossett and the GP facility. DRA Sam Coleman also committed to participate in a second community meeting on April 12, 2014, and to invite representatives from the City of Crossett's public water systems, ADEQ, ADH, and GP to attend the meeting to enhance communication at the local and state levels.

TIMELINE OF PAST ACTIVITIES

November 2011 – GP representatives traveled to EPA Region 6 in response to an environmental justice complaint made about the facility. Part of the complaint stemmed from the release of a video that focused on the community and their concerns with the GP facility.

April and October 2012 – Inspections conducted by EPA Region 6 found the GP facility to be in compliance with NPDES and hazardous waste permits.

June 19-21, 2013 – EPA Region 6 conducted an Environmental Justice Training Workshop for EJ community leaders in Albuquerque, New Mexico. Pastor David Bouie, Sr. of Crossett, AR, participated in the workshop and spoke about his community's concerns with air emissions and water discharges from the GP facility. At the event, RA Ron Curry indicated Region 6 would visit the community.

December 2013 – EPA Region 6 received a first draft of the GP Use Attainability Analysis (UAA) for Coffee Creek and Mossy Lake for review and comment from ADEQ. This issue is related to the community's concerns with the GP wastewater treatment system and its impact on wildlife. Residents stated they have always eaten fish caught in Coffee Creek and still continue to do so.

February 22, 2014 – DRA Sam Coleman and staff from OEJTA traveled to Crossett, AR, to participate in a tour of the community and a community meeting hosted by Pastor Bouie and the local group Concerned Citizens for Environmental Justice.

March 11, 2014 – Conference call with Pastor Bouie, DRA Sam Coleman, and staff from 6WQ and OEJTA to further discuss community concerns with drinking and ground water.

March 19-21, 2014 – EPA Region 6 conducted inspections at the GP facility under Section 313 of the Emergency Planning and Community Right to Know Act (EPCRA). Extensive review of the data collected during the inspection is required for EPA to determine if a facility is in compliance with TRI requirements. We are currently in the process of reviewing that data and will provide the results once our assessment is complete.

March 20, 2014 – Follow-up conference call with Pastor Bouie, Cheryl Slavant (Ouachita Riverkeeper Inc.), DRA Sam Coleman and staff from 6PD, 6WQ, and OEJTA to further discuss community concerns with hydrogen sulfide, drinking water, and the GP wastewater treatment system.

April 3, 2014 – EPA Region 6 sent a letter to Pastor Bouie responding to his drinking water concerns. Included with the letter was the Region 6 "Review of Public Drinking Water Systems Near Crossett, Arkansas," which found the city's four public water systems to be in compliance with all State and Federal drinking water rules.

April 8, 2014 – Conference call with Pastor Bouie, EPA Region 6, ADEQ and ADH to discuss resident concerns and the agenda for the April 12, 2014 community meeting.

April 12, 2014 – DRA Sam Coleman and staff from OEJTA are scheduled to return to Crossett, AR, to participate in a second community meeting. EPA Region 6 invited representatives from the City of Crossett, ADEQ, ADH, and GP to participate in the meeting.